IN THE CLAIMS:

Please substitute the following claims for the same numbered claims in the application.

1. (Currently Amended) A method of forming an epitaxial silicon-containing layer on a silicon germanium surface, said method comprising:

performing an ex-situ chemical oxide removal process on said silicon germanium surface so as to remove oxygen from said silicon germanium surface, and leave a remaining amount of oxygen at said silicon germanium surface, wherein said remaining amount of oxygen comprises less than 5×10^{12} atoms/cm^2 and is sufficient to avoid surface roughening of said silicon germanium surface;

heating said silicon germanium surface in a chlorine containing environment; wherein said chlorine containing environment is choosen so as to remove said remaining amount of oxygen from said silicon germanium surface and minimize surface roughening of said silicon germanium surface without depositing silicon onto said silicon germanium surface; and

epitaxially growing said epitaxial silicon-containing layer on said silicon germanium surface.

2. (Original) The method in claim 1, wherein said ex-situ chemical oxide removal and heating processes increase the roughness of said silicon germanium surface by less than 1Å RMS.

3. (Original) The method in claim 1, wherein said silicon-containing layer comprises one of Si, Si_xGe_{1-x}, Si_xC_{1-x}, and $Si_xGe_yC_{1-x-y}$.

4. (Original) The method in claim 1, wherein said ex-situ chemical oxide removal comprises a hydrofluoric acid etch.

5. (Original) The method in claim 4, where said hydrofluoric acid comprises a H_2O:HF solution with ratio of 10:1 to 500:1.

6. (Original) The method in claim 1, wherein said chlorine containing environment comprises a mixture of a larger flow of hydrogen with smaller flows of HCl and DCS.

7. (Original) The method in claim 6, where the ratio of HCl and DCS is chosen to have a zero etch rate.

8. (Original) The method in claim 7, where the ratio of HCl and DCS is chosen to have a positive etch rate.

9. (Original) The method in claim 1, wherein said chlorine containing environment comprises a mixture of a larger flow of hydrogen with smaller flow of mixture of HCl with any one or any combination of SiH_4, DCS, $SiHCl_3$, Si_2H_6, and GeH_4.

10. (Currently Amended) A method of forming an epitaxial silicon-containing layer on a silicon surface, said method comprising:

performing an ex-situ chemical oxide removal process on said silicon surface so as to remove oxygen from said silicon surface, and leave a remaining amount of oxygen at said silicon surface, wherein said remaining amount of oxygen comprises less than 5×10^{12} atoms/cm^2 and is sufficient to avoid surface roughening of said silicon surface;

heating said silicon surface in a chlorine containing environment, wherein said chlorine containing environment is choosen so as to remove said remaining amount of oxygen from said silicon surface and minimize surface roughening of said silicon surface without depositing silicon onto said silicon surface; and

epitaxially growing said epitaxial silicon-containing layer on said silicon surface.

11. (Original) The method in claim 10, wherein said silicon surface comprises one of a patterned strained silicon surface and a patterned thin silicon-on-insulator (SOI) surface.

12. (Original) The method in claim 10, wherein said ex-situ chemical oxide removal and heating processes increase the roughness of said silicon surface by less than 1Å RMS.

13. (Original) The method in claim 10, wherein said silicon-containing layer comprises one of Si, Si_xGe_{1-x}, Si_xC_{1-x}, and $Si_xGe_yC_{1-x-y}$.

14. (Original) The method in claim 10, wherein said ex-situ chemical oxide removal comprises a hydrofluoric acid etch.

15. (Original) The method in claim 14, where said hydrofluoric acid comprises a H_2O:HF solution with ratio of 10:1 to 500:1.

16. (Original) The method in claim 10, wherein said chlorine containing environment comprises a mixture of a larger flow of hydrogen with smaller flows of HCl and DCS.

17. (Original) The method in claim 16, where the ratio of HCl and DCS is chosen to have one of a zero etch rate and positive etch rate.

18. (Original) The method in claim 10, wherein said chlorine containing environment comprises a mixture of a larger flow of hydrogen with smaller flow of mixture of HCl with any one or any combination of SiH_4, DCS, $SiHCl_3$, Si_2H_6, and GeH_4.

19. (Currently Amended) A method of forming an epitaxial silicon-containing layer on a silicon surface, wherein said silicon surface comprises one of a patterned strained silicon surface

and a patterned thin silicon-on-insulator (SOI) surface, said method comprising:

performing an ex-situ chemical oxide removal process on said silicon surface so as to remove oxygen from said silicon surface, and leave a remaining amount of oxygen at said silicon surface, wherein said remaining amount of oxygen comprises less than 5×10^{12} atoms/cm^2 and is sufficient to avoid surface roughening of said silicon surface;

heating said silicon surface in a chlorine containing environment, wherein said chlorine containing environment is choosen so as to remove said remaining amount of oxygen from said silicon surface and minimize surface roughening of said silicon surface without depositing silicon onto said silicon surface; and

epitaxially growing said epitaxial silicon-containing layer on said silicon surface.